ADSERO OPTIMA CASE STUDY

Major Steel Producer Extends the ROI of its Legacy ERP Application through Database Modernization

Synopsis

By implementing a modern application architecture, Cape Gate reduced maintenance times, improved long-term maintainability of their ERP application and retained their competitive advantage in terms of customer service delivery.

Introduction

Cape Gate, one of the Top 3 Steel Producers in South Africa, has grown from a small wire netting manufacturing company in 1962 to a major producer of wire and steel products with its own source of raw materials. The company runs two IBM i systems with an old, heavily customized System/38-based version of the JBA ERP application dating back to 1986. Due to its level of customization, they bought the source code in 1986 and have been self-sufficient and self-reliant for any required enhancements and changes. Although the ERP application system is a text based green screen application, the IBM Power System's hardware and the IBM i operating system's software are 'up to date.'

Despite the older version of their ERP systems, Cape Gate runs one of the top RPG development shops in South Africa. In fact, the order entry module has essentially been redeveloped over the years from the ground up, providing Cape Gate with a significant competitive advantage. Their own investment into their system exceeds 100 man-years of effort, excluding the original base application – mostly coded in RPG III.

The Problem

Due to the age of the systems and the monolithic nature of the code, the maintenance burden had become excessive and the list of outstanding system change requests was growing at an unacceptable rate. While Cape Gate was happy with the functionality offered by the systems, they were frustrated by this excessive maintenance burden and the delays involved when introducing changes.

CAPE GATE

"Maintaining our IBM i system became a real problem. With our customized and unstructured programming methods we are dependent on our team of programming personnel, many of whom are approaching retirement. Availability of external resources to support the outdated programming technology is difficult to come by. It is a huge risk to proceed as usual."

Eliene van Biljon, IT Manager
Cape Gate

AO Adsero Optima™
Reclaim Your Heritage

Cape Gate researched multiple options including modernization and system replacement, but soon realized the expense, risk and challenges involved. All application systems are tightly integrated to all levels of application systems on various platforms e.g. Process Control (PLC's), MES - PC-based systems up to Excel-based MIS reporting. In addition, some of the systems developed on the IBM i are customized to Cape Gate e.g. production tracking, quality control and production bonus systems. Other systems e.g. maintenance labour control could have been replaced by a maintenance management system. The company would have needed a total system re-development of Cape Gate specific IBM i systems as well as redevelopment of all system interfaces between all platforms.

The Return-on-Investment

The company estimated that the total cost of replacing their IBM i system would have exceeded $3 million*. In addition, a new ERP system would have required two systems running in parallel for a long time, not to mention a massive "re-skilling" of their staff. Additionally, the many hours spent customizing their system over the years would be lost. In the end, the timeframe and the costs required to obtain the same level of functionality in a new system would have been astronomical. Replacement simply meant: throw years of investment and skill into a trash can.

"It would have taken us at least 3 years to implement a new ERP system with 'best-fit' configurable functionality, and 'best-fit' would have only been 75% functionality. In addition, it would have taken at least another five years to customize it to meet the functionality of our current system. As our company has very specific business needs, our systems need to be adapted regularly due to new and changing business requirements. An expensive, full-time ERP-onsite team would have been required to keep up with ongoing maintenance requests," emphasizes Van Biljon.

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Eliene van Biljon, IT Manager
Cape Gate

After critically considering the functionality offered, and distinguishing between operational and functional deficiencies, the company recognized that it needed to retain the value that they had invested within their heritage ERP applications. Furthermore, Cape Gate realized that there were significant competitive advantages essentially "hidden" within their heritage applications, and if this could be retained and encapsulated, a significant additional ROI was possible.

Like most companies Cape Gate first started investigating user interface modernization, but quickly discovered that their biggest challenge was at the back-end: the modernization of the database and program-logic. Cape Gate needed to get onto the SQL engine and make SQL the driver of the application.

"We investigated user-interface modernization twice," says Van Biljon. "One time using a packaged solution

** taking into account hardware, software, development tools, implementation services and re-skilling.*

and another time manually. Through our investigations we discovered that in order for modernization to be done effectively and in a manner that would lead to the best long-term solution, it needed to start at the back-end: first the database, then program-logic and lastly the user-interface."

To address their maintenance burden and create application agility, Cape Gate's applications that were designed on old standards had to be fundamentally re-constructed. This would allow Cape Gate to unlock massive value, retain the competitive advantage facilitated by those applications, and recover the business rules in re-usable components.

The Decision

At this point, Cape Gate knew it had to find the most efficient way to modernize the database. Several solutions were ruled out based on their use of surrogate files. Solutions that use surrogate files add an additional layer of complexity and prevent companies from making changes to their heritage applications. Additionally, the company looked into manually modernizing the database and quickly discovered the expense, risk, and downtime involved. Finally, TEMBO Adsero Optima was discovered by Van Biljon. After understanding the Adsero Optima methodology (which is to modernize the DB2 database, without surrogates, without risk and practically without downtime), it was chosen by Cape Gate to modernize their enterprise.

"We were impressed that the conversion of the DB2 database files to SQL could be done without any level ID changes or surrogate files and could be done with minimal disruption to the business," comments Van Biljon. "Once we had decided to proceed with database modernization, Adsero Optima was an easy decision."

"When comparing the costs of implementing a new system vs. database modernization, we soon discovered that the cost savings from modernization would be significant and ROI would be achieved rapidly. Comparatively, hardware, software, implementation and re-training costs would have cost 6 times more saving the company over $2.8M."

Eliene van Biljon, IT Manager
Cape Gate

The Process and Result

Cape Gate completed their database conversion in their development environment, allowing them to learn the Adsero Optima solution, perform housekeeping, and undergo testing before going live. Implementation of the database conversion into the company's production environment took only one day with minimum disruption to the business and without posing risk to the data.

The modernized application system environment ensures long-term maintainability of their ERP application systems. In addition, maintenance times have been shortened as the company can now alter tables without re-compiling complete applications. This means that urgent requests can be implemented quickly and without any down time.

"We expect additional major positive impacts on maintenance times and performance improvement after our next phase, which will involve program logic optimization and user interface modernization."

Eliene van Biljon, IT Manager
Cape Gate

Through the database 'sanitation' process, Cape Gate reaps the benefits of an improved platform allowing IT personnel to optimize the extraction of required information and direct power users to a better understanding of the database.

As a bonus, the company continues to invest in new technology and development personnel who now have the opportunity to use new tools.

Adds Van Biljon, "TEMBO, our very committed local service provider, is easy to be reached for service and support, and they are always prepared to walk the extra mile."

Adsero Optima enterprise modernization has enabled database modernization and will allow Cape Gate to implement a modern application architecture with a clear separation between the database, the user interface and the business-unique application logic. This allows them to reclaim their agility, regain their competitive advantage and respond more rapidly to changes in the business environment.

About TEMBO Application Generation (Pty) Ltd.

TEMBO Application Generation (Pty) Ltd. specializes in the development of enterprise modernization solutions for IBM Power Systems running IBM i. The flagship product, Adsero Optima (AO) modernizes legacy databases to DB2 SQL , extending applications and providing a solid foundation for future modernization technologies and projects.

TEMBO focuses on full spectrum modernization deployments that result in improved IT efficiencies, specifically SQL DB2 Migration. We offer deep expertise in Design Recovery (refactoring), BPI, Business Agility, SOA, SaaS and Cloud Computing.

To fully exploit the power of IBM i, we leverage ILE RPG IV, Embedded SQL, SQL (DDL, DML), Stored Procedures, looksoftware and other similar tools, Zend framework, PHP, JAVA, .NET, AJAX and RPG Open Access (ROA).

TEMBO
Application Generation (Pty) Ltd

TEMBO Application Generation (Pty) Limited
Phone +27 11 465-5701 • www.adsero-optima.com •
salescontacts@tembotechlab.com